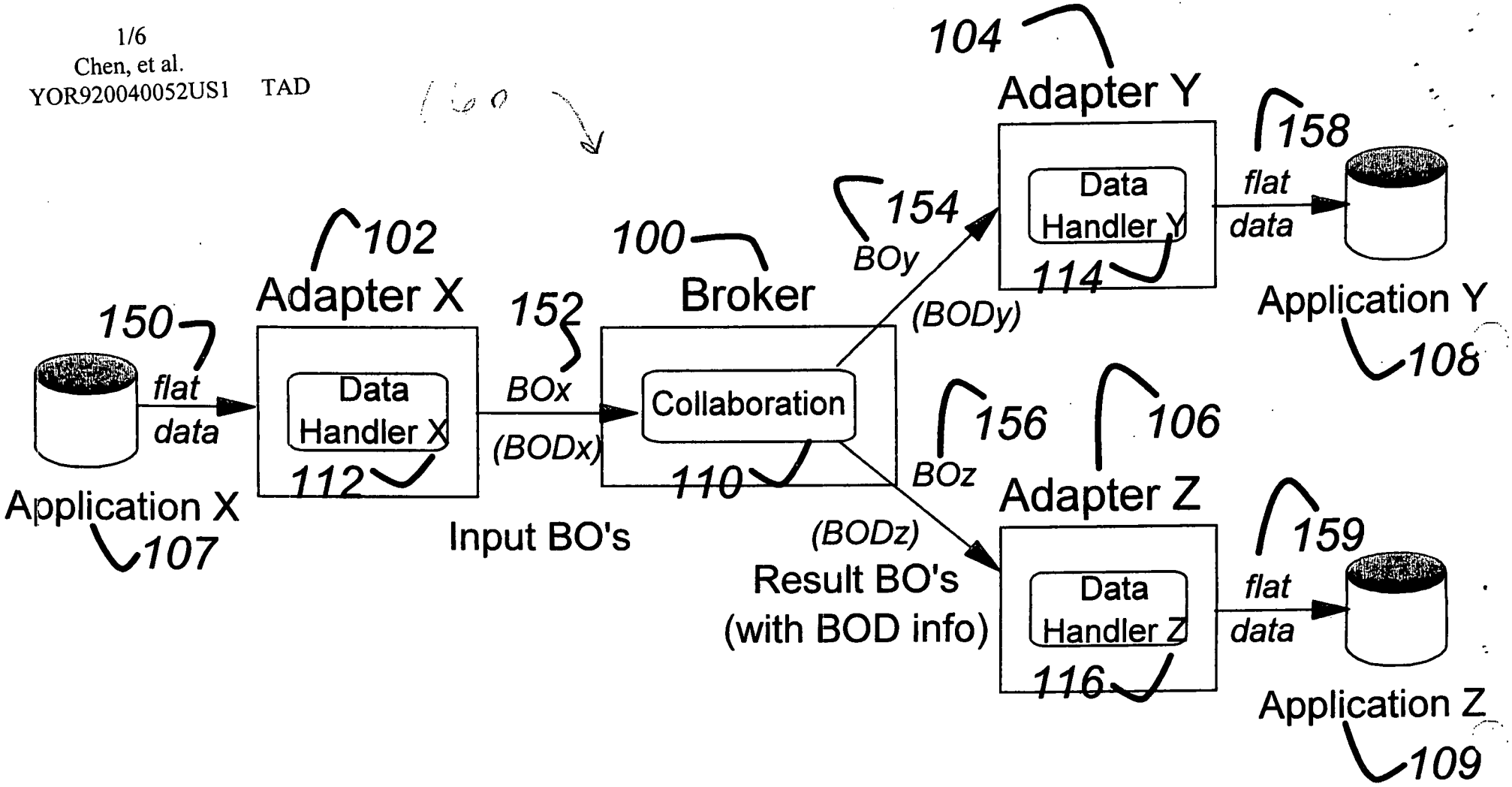
104
Adapter Y
158
Data Handler Y
flat data
154
BOy
(BODy)
102
Adapter X
100
Broker
150
flat data
Data Handler X
152
BOx
(BODx)
Collaboration
114
Application Y
108
Application X
107
112
110
Input BO's
156
BOz
106
Adapter Z
(BODz)
Result BO's
(with BOD info)
159
Data Handler Z
flat data
116
Application Z
109

Figure 1.

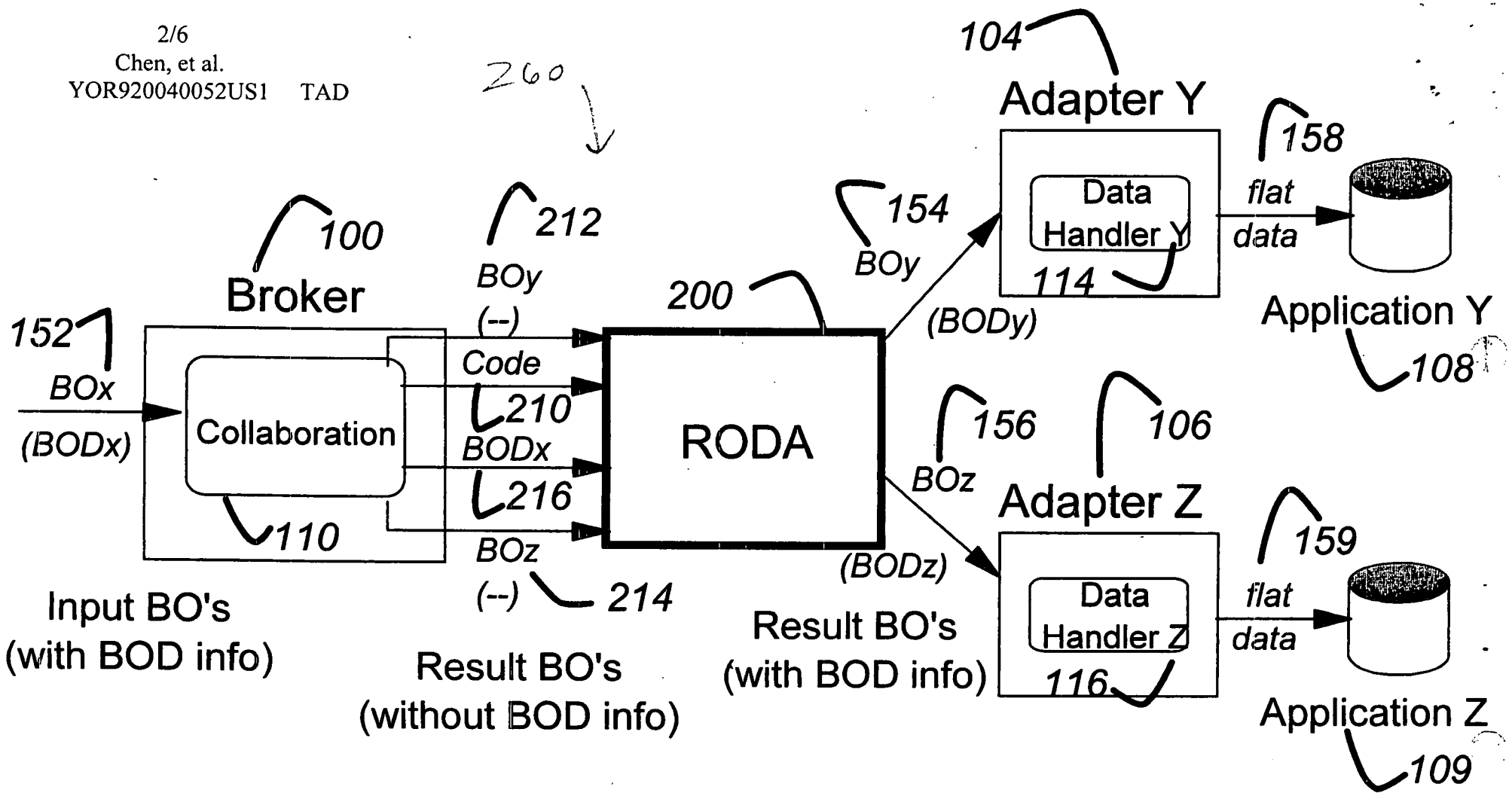
260
104
Adapter Y
158
Data Handler Y
flat data
Application Y
108
114
154
BOy
(BODy)
212
BOy
(--)
100
Broker
200
152
BOx
(BODx)
Collaboration
Code
210
BODx
216
110
RODA
156
BOz
106
Adapter Z
159
Data Handler Z
flat data
Application Z
109
116
BOz
(--)
214
(BODz)
Input BO's
(with BOD info)
Result BO's
(without BOD info)
Result BO's
(with BOD info)

Figure 2.

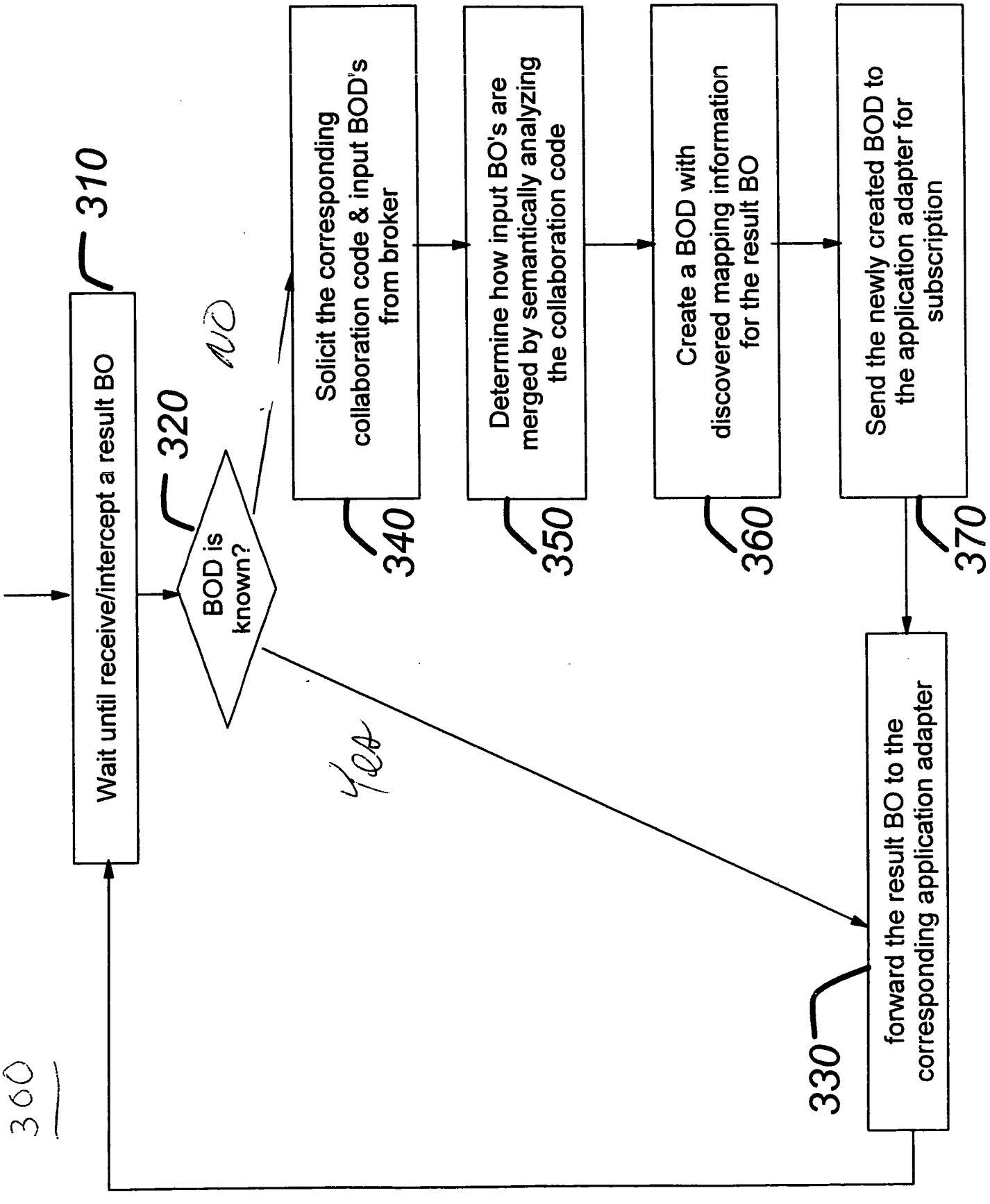
300
Wait until receive/intercept a result BO
310
BOD is known?
320
NO
YES
Solicit the corresponding collaboration code & input BOD's from broker
340
Determine how input BO's are merged by semantically analyzing the collaboration code
350
Create a BOD with discovered mapping information for the result BO
360
Send the newly created BOD to the application adapter for subscription
370
forward the result BO to the corresponding application adapter
330

Figure 3.

400

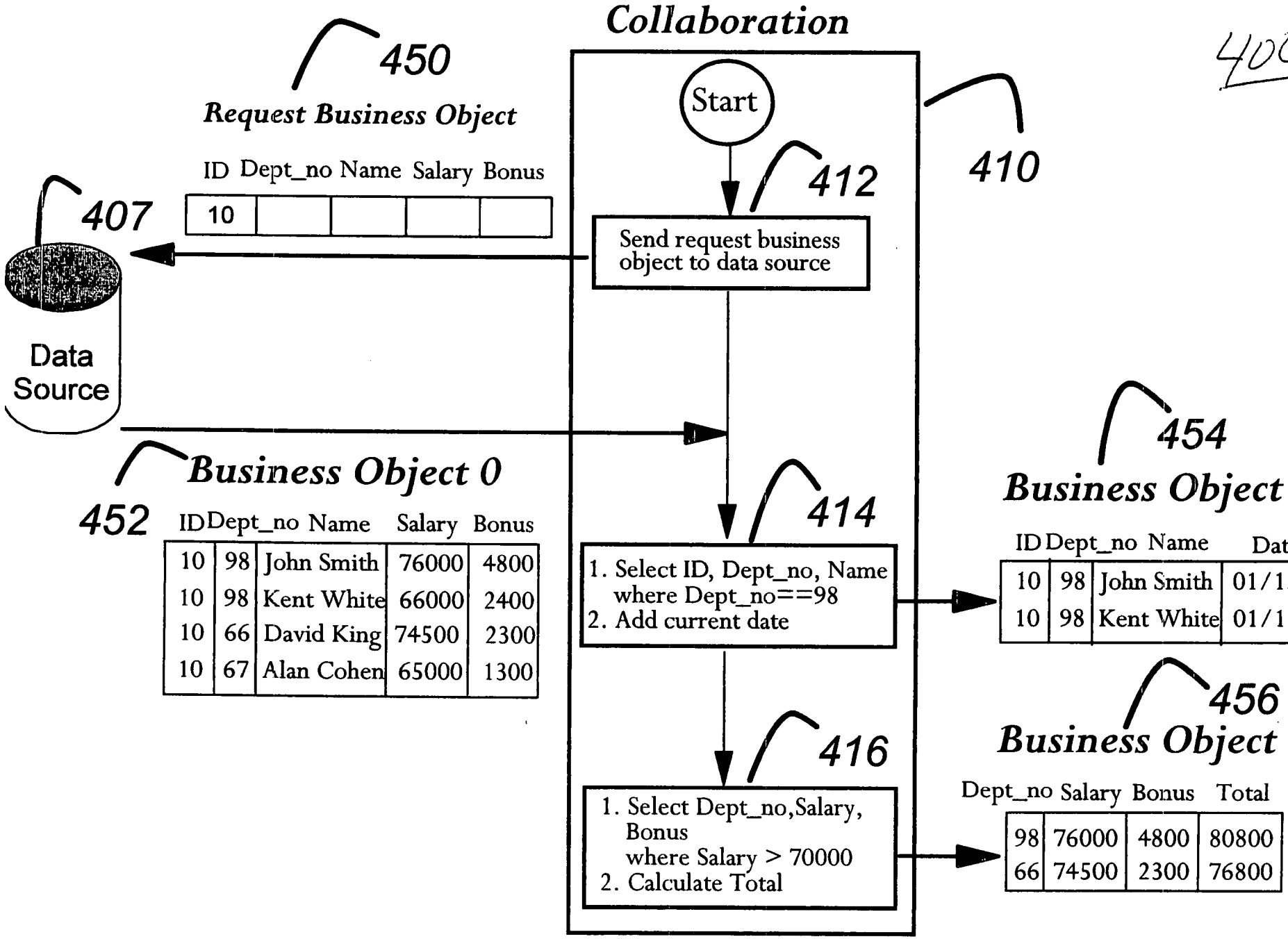
Collaboration
450
Request Business Object
ID Dept_no Name Salary Bonus
10
407
Data Source
Start
412
Send request business object to data source
410
Business Object 0
452
ID Dept_no Name Salary Bonus
10 98 John Smith 76000 4800
10 98 Kent White 66000 2400
10 66 David King 74500 2300
10 67 Alan Cohen 65000 1300
414
1. Select ID, Dept_no, Name where Dept_no==98
2. Add current date
454
Business Object 1
ID Dept_no Name Date
10 98 John Smith 01/15/04
10 98 Kent White 01/15/04
416
1. Select Dept_no,Salary, Bonus where Salary > 70000
2. Calculate Total
456
Business Object 2
Dept_no Salary Bonus Total
98 76000 4800 80800
66 74500 2300 76800

Figure 4.

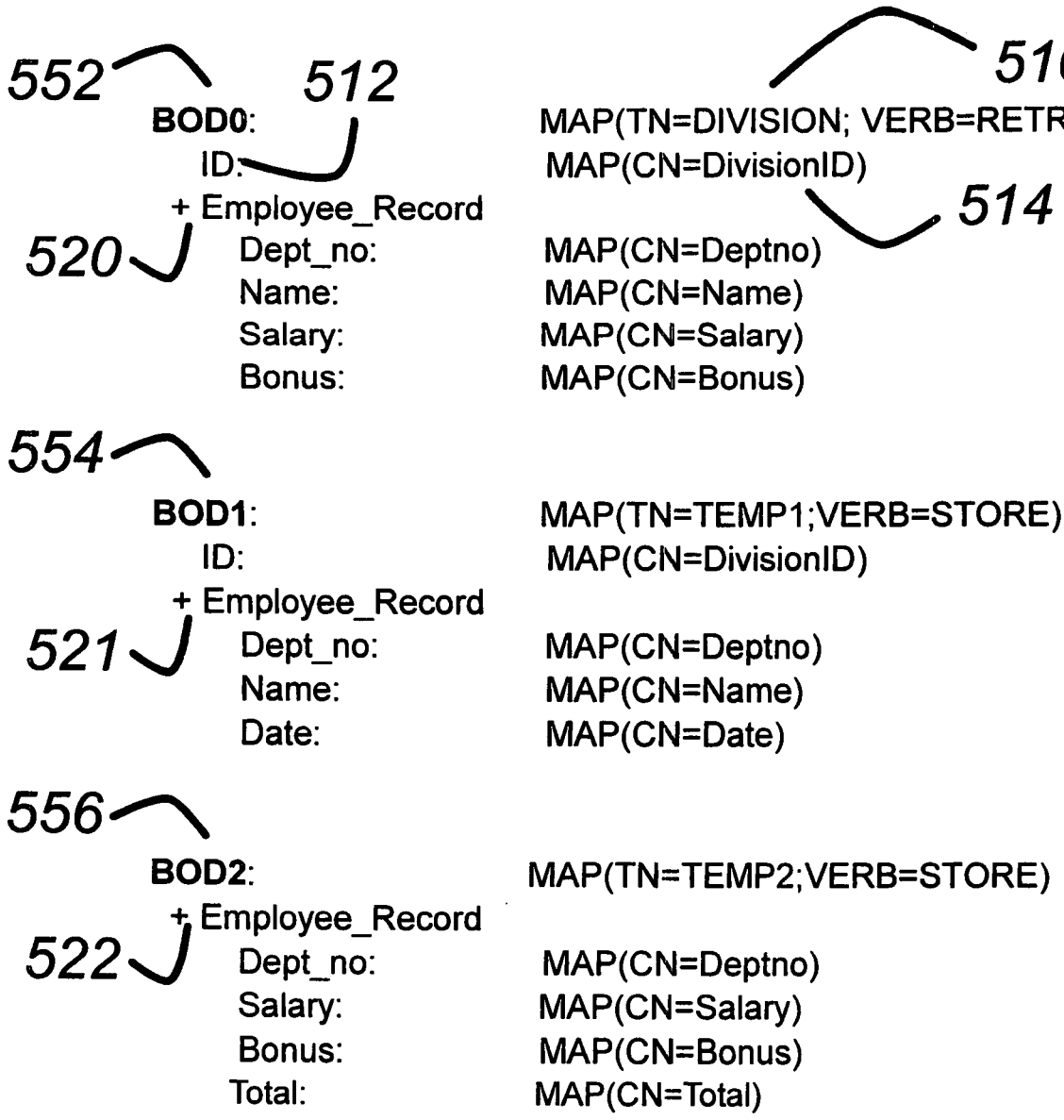
552
512
510
BOD0:
MAP(TN=DIVISION; VERB=RETRIEVE)
ID:
MAP(CN=DivisionID)
514
+ Employee_Record
520
Dept_no:
MAP(CN=Deptno)
Name:
MAP(CN=Name)
Salary:
MAP(CN=Salary)
Bonus:
MAP(CN=Bonus)
554
BOD1:
MAP(TN=TEMP1;VERB=STORE)
ID:
MAP(CN=DivisionID)
+ Employee_Record
521
Dept_no:
MAP(CN=Deptno)
Name:
MAP(CN=Name)
Date:
MAP(CN=Date)
556
BOD2:
MAP(TN=TEMP2;VERB=STORE)
+ Employee_Record
522
Dept_no:
MAP(CN=Deptno)
Salary:
MAP(CN=Salary)
Bonus:
MAP(CN=Bonus)
Total:
MAP(CN=Total)

Figure 5.

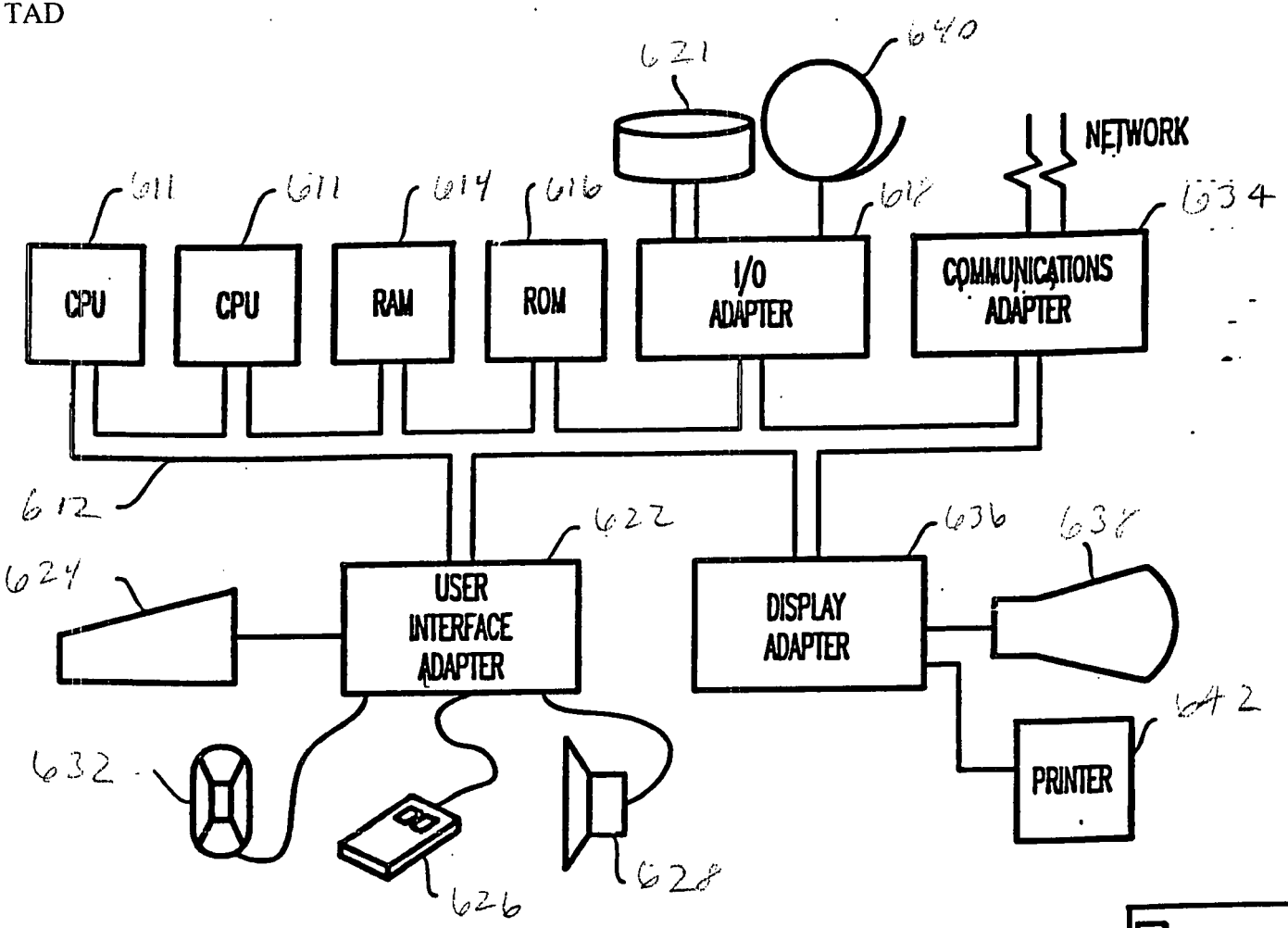
621
640
NETWORK
611
611
614
616
618
634
CPU
CPU
RAM
ROM
I/O ADAPTER
COMMUNICATIONS ADAPTER
612
622
636
638
624
USER INTERFACE ADAPTER
DISPLAY ADAPTER
642
632
PRINTER
626
628

FIG. 6

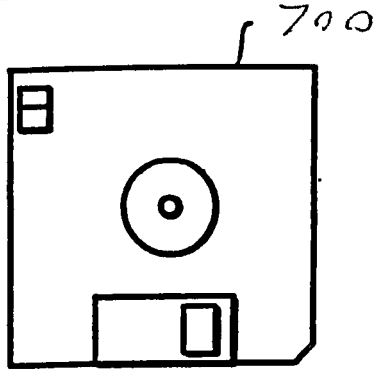
700

FIG. 7